REMARKS/ARGUMENTS

Claims 1-47 were pending in this application. Within the Office Action, claims 1, 4, 5, 17-21, 24, 27, 28, and 40-44 are rejected under 35 U.S.C. § 102(e), and claims 2, 3, 6-16, 22, 23, 25, 26, 29-39, 45-47 are rejected under 35 U.S.C. § 103(a). By way of the above amendments, claims 1 and 24 have been amended, and claims 48 and 49 have been added. Accordingly, claims 1-49 are pending. The Applicants respectfully request reconsideration in light of the amendments made above and the arguments made below.

The present invention

In accordance with the present invention, metrics used to characterize network performance are translated into the same format so that they can be added. The Specification provides several examples for doing this, such as at page 8, lines 1-4, where metrics for one-way delay and for loss are translated into exponential values. These values are generated to have a common format (unit less) and are later used to generate a metric for voice, as shown at page 8, line 24. Such a metric, which characterizes both delay and loss, characterizes performance and can be added across multiple segments to determine the performance across a path that includes first and second segments. The Specification gives similar examples throughout, such as at page 9, lines 1-4, in which the metric has units, and at page 36, lines 1-20.

The metrics are also additive in that when added, they give meaningful characteristics about performance across the combination of the first and second segments. One example, at page 8, line 29, to page 9, line 1, explains that the metrics are additive because they are monotonic.

In accordance with other embodiments of the invention, metrics are tailored to better characterize the performance of particular applications. As explained at page 6, lines 15-17: "[P]erformance means the performance metric that matters for the respective application: [mean opinion score] MOS score for voice traffic, throughput and latency for TCP data traffic." Thus, as shown at page 36, lines 1-2, parameter values are determined for (tailored to) particular applications.

Rejections under 35 U.S.C. § 102(e)

Within the Office Action, claims 1, 4, 5, 17-21, 24, 27, 28, and 40-44 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 7,020,086 to Juttner et al. The Applicants respectfully traverse these rejections.

Juttner is directed to methods for determining least cost routing across a network. At column 11, lines 38-50, Juttner discloses a modified cost function that includes the sum of weighted constraints $\lambda_i d_i(x)$, each for a path x. Each constraint $d_i(x)$ is a function that describes a constraint on a cost, not a characteristic of a network application. Each constraint $d_i(x)$ is for the *entire* path x, not for a segment of a path. At column 12, lines 45-60, Juttner provides multiple equations that must be solved to find a solution for the modified cost function. The component terms are *not* used to add metrics as recited in the claims of the present invention. The invention in Juttner works, as illustrated in its Figures 3A and 3B, by selecting multiple *entire* paths, determining whether any of the paths satisfy certain constraints and, if not, relaxing the constraints to find a less than optimal solution.

Juttner does not disclose generating metrics for path segments that can be added or otherwise combined to give meaningful performance characteristics. Juttner does not disclose generating metrics to have a common format so that they can be added or otherwise combined. And Juttner does not disclose tailoring metrics to provide meaningful performance characteristics based on the network applications.

Claim 1 is directed to a method for characterizing a quality of a network path, including a first segment and a second segment. The method includes accessing a first metric and a second metric generated to have a common format, both of which are at least in part quality characterizations of a same plurality of one or more network applications. The method also includes adding the first and second metrics to generate a third metric that also characterizes the same plurality of network applications. Claim 24 recites corresponding structure.

As explained above, Juttner does not disclose generating first and second metrics that are in part quality characterizations of the same plurality of network applications and both of which are generated to have a common format, and adding these to generate a third metric, as recited in claims 1 and 24. For at least these reasons, claims 1 and 24 are both allowable over Juttner.

Claims 4, 5, and 17-21 all depend on claim 1, and claims 27, 28, and 40-44 all depend on claim 24. Accordingly, claims 4, 5, 17-21, 27, 28, and 40-44 are all allowable as depending on allowable base claims.

Rejections under 35 U.S.C. § 103(a)

Juttner and Hultgren

Within the Office Action, claims 2, 3, 6-16, 25, 26, and 29-39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Juttner in view of U.S. Patent No. 6,134,580 to Hultgren. The Applicants respectfully traverse these rejections.

Hultgren is directed to establishing a network connection between an originating node and a destination node. Hultgren describes determining an acceptable sequence of links by sending solicitations for bids to intermediate nodes along a network path and then processing the bids. Hultgren does not disclose accessing first metric and second metrics that are at least in part quality characterizations of a same plurality of one or more network applications and that have been generated to have a common format, as recited in claims 1 and 24. As explained above, Juttner does not disclose this structure either. Accordingly, claims 1 and 24 are both allowable over Juttner, Hultgren, and their combination.

Claims 2, 3, and 6-16 all depend on claim 1, and claims 25, 26, and 29-39 all depend on claim 24. Accordingly, claims 2, 3, 6-16, 25, 26, and 29-39 are all allowable as depending on allowable base claims.

Juttner and Saleh

Within the Office Action, claims 22, 23, and 45-47 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Juttner in view of U.S. Patent No. 7,002,917 to Saleh. The Applicants respectfully traverse these rejections.

Saleh is directed to a method of finding a path in a network. Saleh discloses determining minimum-hop and minimum cost paths. Saleh does not disclose accessing first metric and second metrics that are at least in part quality characterizations of a same plurality of one or more network applications and that have been generated to have a common format, as recited in claims 1 and 24. As explained above, Juttner does not disclose this structure either. Accordingly, claims 1 and 24 are both allowable over Juttner, Saleh, and their combination.

Claims 22 and 23 both depend on claim 1, and claims 45-47 all depend on claim 24. Accordingly, claims 22, 23, and 45-47 are all allowable as depending on allowable base claims.

The new claims 48 and 49

Claim 48 finds support in the Specification at, for example, page 6, lines 14-17, and page 35, line 30, to page 36, line 20. Claim 49 finds support in the Specification at, for example, page 6, lines 22-26. Claims 48 and 49 both depend on claim 1 and are thus allowable as depending on an allowable base claim.

Claim 48 is also allowable because it recites that the function of the same plurality of one or more elementary network parameters is a combination of multiple component functions; and each of the multiple component functions is *tailored* to measure a performance characteristic of a corresponding one of the one or more elementary network parameters. As explained above, none of the cited prior art discloses this element.

CONCLUSION

For the reasons given above, the Applicants respectfully submit that claims 1-49 are in condition for allowance, and allowance at an early date would be appreciated. If the Examiner has any questions or comments, the Examiner is encouraged to call the undersigned at (408) 530-9700 so that any outstanding issues can be quickly and efficiently resolved.

Respectfully submitted,
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